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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/616,011 | 07/09/2003 | Akihito Tamamura | 90192 | 1006 |
| 24628 | 7590 | 06/14/2005 | EXAMINER | |
| WELSH & KATZ, LTD 120 S RIVERSIDE PLAZA 22ND FLOOR CHICAGO, IL 60606 | | | LU, TONY W | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2878 | |

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | | |
|------------------------------|------------------------|--|---------------------|--|
| Office Action Summary | Application No. | | Applicant(s) | |
| | 10/616,011 | | TAMAMURA, AKIHITO | |
| | Examiner | | Art Unit | |
| | Tony Lu | | 2878 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 07/09/2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objections

Claims 3,5,8,9,10,12, and 14 are objected to because of the following informalities:

1) As for claim 3, "face" in the phrase "curvature is arranged at said face served as a ceiling" lacks antecedent basis.

2) As for claim 5, "the cylindrical rod lens" lacks antecedent basis.

3) As for claims 8 and 9, "the first dust protective covering" lacks antecedent basis.

3) As for claim 10, "said first and/or second dust protective coverings" and "the external surfaces" lack antecedent basis.

4) As for claim 12, "third dust protective covering" lacks antecedent basis.

5) As for claim 14, "said cylindrical rod lenses" lacks antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Wu et al US6035540.

With respect to claims 1 and 13, Wu et al disclose a laser line beam emitting system comprising: a laser beam emitting unit(6,7,8) for emitting a laser beam therefrom, the laser beam emitting unit includes an optical broad element(col.2, lines 20-30) through which the emitted laser beam flux are vertically or horizontally broadened so that a vertical or horizontal straight line is formed and drawn on its objects(fig.5), the broadened laser beam flux having a central optical axis, a main covering(9) for surrounding and covering said laser beam emitting unit therewith, the main covering comprising a plurality of faces and having at least one longlength outlet(note in fig.3 and fig.4 the openings near elements 6,7 and 8) consecutively formed on said faces which the vertically or horizontally broadened laser beam flux reach(fig.3 and fig.4), and a plurality of dust protective coverings(the portions right in front of emitters in fig.3 and fig.4) for preventing enterer of dust thereinto, the broadened laser beam flux at least in part are reflected from said dust protective covering, one of the dust protective coverings being arranged in a position through which said central optical axis of the broadened laser beam flux passes(fig.3), the dust protective covering at the passage of the central optical axis of the broadened laser beam flux having a curvature such that reflected, emitted laser beam therefrom through the laser beam emitting unit goes back into the interior of the apparatus(note that fig.1, element 9 is a round transparent cover which has curvature. It is known in the optics art that any optics element can reflect at least a part of the light been shinning on it if not all).

With respect to claim 2, per the above discussion, Wu et al disclose the dust protective covering has an inner surface on which the curve is formed with recess(see fig.1 and fig.3, note that the casing 9 is a round shape).

As for claims 3 and 4, per the above discussion, with respect to a mutual orientation relationship between components of the system and the intended objects, the orientation of Wu et al's system are arranged to have said dust protective coverings serve as a ceiling or a front of said main covering.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5-12 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al US6035540.

With respect to claim 5, per the above discussion, Wu et al disclose a laser line beam emitting apparatus comprising: a main covering(9) provided thereto, the main covering having at least a ceiling, a front, a back and sides; a first outlet consecutively formed between said ceiling and the front nearer to said ceiling of the main covering, a second outlet consecutively formed between said front and said sides of the main covering(see fig.3); first and/or second laser beam emitting units(7,8) provided in said main covering for emitting first and/or second laser beams therefrom, the first unit being disposed behind of said first outlet so that the vertically broadened laser beam is

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transmitted through the first outlet for formation of a vertical reference line drawn on its objects(8), the second unit being disposed behind of said second outlet so that the horizontally broadened laser beam is transmitted through the second outlet for formation of a horizontal reference line drawn on its objects(fig.5); first and/or second dust protective covering members having curvature, provided in said first and second outlets of the main covering(note in fig.3 and fig.4 the openings near elements 6,7 and 8).

Wu et al disclose the use of a lens or prism for each of the laser emitting units but fail to include an optical element for collimating light beam. The use of a known and available collimator for collimating light beam in an optical system would have been obvious to one of ordinary skill in the optics art.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wu et al system by utilizing of a collimator in order to collimate the light beam. This would prevent unwanted reflective light from entering the system or apparatus.

Wu et al also fail to teach cylindrical rod lenses.

Although Wu et al lacks a clear teaching of cylindrical rod lenses, selecting a specific type of lens would have been obvious to one of skill in the optic art in order to provide more control to the modulation of the light.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify Wu et al system accordingly by replacing the lenses or prisms

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secured in front of said laser emitting units with cylindrical rod lenses in order to provide desired light modulation.

Wu et al further lack a clear teaching of a reflecting surface formed on the inner surface of said protective covering. Note that the inner surface of said protective covering is transparent(col.2 lines20-25). It is known in the optics art that any optics element is capable of reflecting some lights. It would have been inherently included, however, if not, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Wu et al accordingly by forming a reflecting surface on the inner surface of said protective covering in order to provide more control to the direction of light being reflected from the protective covering.

With respect to claims 6 and 7, per the above discussion, Wu et al fail to teach said first dust protective covering member comprises at least a pair of covering elements where second covering element being flatten, and with a curvature formed on its internal surface.

Although Wu et al lack a clear teaching of a second covering element being flatten, and with a curvature formed on its internal surface, supplying an additional covering element with a specific shape would have been obvious to one of the ordinary skill in order to provide a desired direction of the emitting light.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the proposed system of Wu et al accordingly in order to provide more control to the modulation of the light from the light emitting units.

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With respect to claim 8, per the above discussion, Wu et al fail to teach hold frames for connecting and/or holding said first and second covering elements.

Although Wu et al lack a clear teaching of hold frames, the use of hold frames to connect and/or hold said first and second covering elements together would have been obvious to one of ordinary skill in order provide stronger formation of said first and second covering elements.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the proposed system of Wu et al by utilizing hold frames to connect and/or hold said first and second covering elements in order to provide a stronger formation of said first and second covering elements.

With respect to claim 9, per the above discussion, Wu et al fail to teach said first and second covering elements been connected with each other at a portion where they are opposed to, and formed integrally with each other.

Although Wu et al lack a clear teaching of said first and second covering elements been connected with each other at a portion where they are opposed to, and formed integrally with each other, selecting a specific manner to connect said first and second covering elements would have been obvious to one of ordinary skill in order to provide a desired covering area.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the proposed system of Wu et al in order to provide better protective performance of the protective covering members.

With respect to claim 10, per the above discussion, Wu et al fail to teach the curvatures of said first and/or second dust protective covering members are formed in accordance with the curvatures of the outer surfaces of respective cylindrical rod lenses.

Although Wu et al lack a clear teaching of said first and/or second dust protective covering members are formed in accordance with the curvatures of the outer surfaces of respective cylindrical rod lenses, to form the curvature of said first and/or second protective covering members in accordance with the curvatures of the outer surfaces of respective cylindrical rod lenses would have been obvious to one of the skill in optics art in order to provide a better alignment of the emitted light and prevent distortions of the light produced by said laser beam emitting units.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the proposed system of Wu et al accordingly in order to provide a more accurate emission performance of the system/apparatus.

With respect to claim 11, per the above discussion, Wu et al fails to teach said first and/or second dust protective coverings comprises three covering elements, the first covering element have a center portion arrange at an optical path through which the central optical axis of the broadened, emitted laser beam from the first or second laser beam emitting unit passes, and both edges, the second covering element extending from one of said edges to the interior of the apparatus, the third covering element extending from the other of said edges to the interior of the apparatus, said curvatures

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of the first and/or second dust protective coverings being formed on said first covering elements.

Although Wu et al lack a clear teaching of said first and/or second dust protective coverings comprises three covering elements, the first covering element have a center portion arrange at an optical path through which the central optical axis of the broadened, emitted laser beam from the first or second laser beam emitting unit passes, and both edges, the second covering element extending from one of said edges to the interior of the apparatus, the third covering element extending from the other of said edges to the interior of the apparatus, said curvatures of the first and/or second dust protective coverings being formed on said first covering elements, selecting a specific manner of forming the shape of the dust protective coverings would have been obvious to one of the ordinary skill in order to provide a desired emission direction of the light.

It would have been obvious to one of the ordinary skill in the art at the time of the invention to modify the proposed system of Wu et al accordingly in order to provide better performance protective coverings.

With respect to claim 12, per the above discussion, the citation regarding to at least one of the curvatures of said protective covering members is formed in accordance with respective ones of said cylindrical rod lenses would have been obvious for similar reasons set forth in the discussion of claim 10 above.

With respect to claim 14, per the above discussion, the citation regarding to a cylindrical rod lens would have been obvious for similar reason as set forth in the discussion of claim 5 above. The further citation regarding said first and/or second dust


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protective coverings being formed in accordance with the ones of said cylindrical rod lens would have been obvious for similar reasons set forth in the discussion of claim 10 above as well.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony Lu whose telephone number is 5712728448. The examiner can normally be reached on M-F 9:00am- 6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Davide Porta can be reached on 5712722444. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Handwritten signature of Tony Lu in black ink. The signature is stylized, with the first letters of the first and last names being large and prominent. There is a small 'TL' monogram to the left of the signature.Handwritten signature of Que T. Le in black ink, consisting of a single, large, stylized letter 'Q' followed by a dot.

Que T. Le
Primary Examiner